WE CLAIM:

1. A transflective display device, comprising:

a color transmissive display unit having a viewing side and a back side and defining picture elements; and

a structured transflector disposed to the backside of the color display unit, the structured transflector including a structured dielectric reflector to reflect ambient light that has passed through the color display unit at a reflection angle different from an incident angle, the reflection and incident angles being measured relative to a display normal.

2. A device as recited in claim 1, wherein the dielectric reflector has a transmission in the range of 70% - 90%.

3. A device as recited in claim 1, wherein the transmissive display unit is a liquid crystal display unit.

4. A device as recited in claim 1, further comprising a backlight unit to generate backlight, the structured transflector disposed between the color display unit and the backlight unit, the backlight passing through the structured transflector to the color display unit.

5. A device as recited in claim 4, wherein the backlight unit comprises a light source and at least one light management film disposed between the light source and the structured transflector.

6. A device as recited in claim 4, wherein light from the backlight passes into the structured transflector in an input direction and passes out of the structured transflector in a direction substantially parallel to the input direction.

7. A device as recited in claim 1, wherein the structured reflector defines a plurality of sets of reflective facets, the reflective facets being nonperpendicular to an optical axis of the display device, the different sets of reflective facets being associated with respective different picture elements, the sets of reflective facets comprising at least two reflective facets.

8. A device as recited in claim 7, wherein the reflective facets of the plurality of sets of reflective facets are substantially rectilinear, first reflective facets of the sets of reflective facets being disposed at a first angle relative to the optical axis and second reflective facets of the sets of reflective facets being disposed at a second angle relative to the optical axis, a magnitude of the first angle being different from a magnitude of the second angle.

9. A device as recited in claim 8, wherein different reflective facets within at least one of the sets of reflective facets have different lengths.

10. A device as recited in claim 8, wherein base angles of different reflective facets within at least one of the sets are selected so as to provide a desired average reflection angle for the set of reflective facets.

11. A device as recited in claim 8, wherein different reflective facets within at least one of the sets of reflective facets have base angles in the range 2° - 20°.

12. A device as recited in claim 11, wherein the base angles are in the range from 6° - 10°.

13. A device as recited in claim 7, wherein at least one of the reflective facets is a non-linear facet.

14. A device as recited in claim 13, wherein the at least one of the reflective facets is curved.

15. A device as recited in claim 13, wherein the at least one of the reflective facets has at least two linear segments.

16. A device as recited in claim 1, wherein the structured reflector defines reflecting portions that are perpendicular to a normal to the display unit and reflecting portions that are not perpendicular to a normal to the display unit.

17. A device as recited in claim 16, wherein the structured reflector comprises a reflecting surface having reflecting portions set at a range of angles about a position perpendicular to the normal to the display unit.

18. A device as recited in claim 1, wherein, when the device is illuminated by ambient light and the display unit reflects glare light arising from the ambient light, the structured transflector reflects image light primarily to one side of the glare light.

19. A device as recited in claim 1, wherein, when the device is illuminated by ambient light and the display unit reflects glare light arising from the ambient light, the structured transflector reflects image light substantially surrounding the glare light.

20. A device as recited in claim 1, wherein the structured dielectric reflector is disposed over a holographic surface.

21. A device as recited in claim 1, wherein the structured transflector further comprises a planarization layer disposed over the dielectric reflector and facing the transmissive display unit.

22. A device as recited in claim 21, wherein the planarization layer includes diffusing particles.

23. A device as recited in claim 21, wherein the planarization layer is an adhesive layer adhering the structured transflector to the transmissive display unit.

24. A device as recited in claim 23, further comprising light diffusing particles provided within the adhesive layer.

25. A device as recited in claim 1, further comprising a diffuser disposed between the structured transflector and the transmissive display unit.

26. A device as recited in claim 1, wherein the structured transflector generally lies in an x-y plane, and the structured reflector comprises tilted surfaces tilted relative to the x-y plane so that light normally incident to the x-y plane in a direction parallel to a z-axis, is reflected by the tilted surfaces in a direction having a component lying in a y-z plane.

27. A device as recited in claim 26, wherein at least one of the tilted surfaces is shaped so as to laterally reflect a portion of the incident light to have a directional component in the x-direction.

28. A device as recited in claim 27, wherein the at least one of the tilted surfaces is curved so as to laterally reflect a portion of the incident light to have the directional component in the x-direction.

29. A device as recited in claim 27, wherein the at least one of the tilted surfaces has a randomly varying surface so as to laterally reflect a portion of the incident light to have the directional component in the x-direction.

30. A device as recited in claim 1, wherein the structured reflector includes sets of tilted surfaces, a set of tilted surfaces corresponding to a respective picture element of the transmissive display unit.

31. A device as recited in claim 30, wherein different tilted surfaces within a set of tilted surfaces have different pitches.

32. A device as recited in claim 1, wherein the structured dielectric reflector includes a substrate comprising a material having a relatively low refractive index, and a partial reflector layer disposed on a structured surface of the substrate.

33. A device as recited in claim 32, wherein the partial reflector layer comprises a single layer of material having a refractive index higher than a refractive index of the substrate.

34. A device as recited in claim 32, wherein the partial reflector layer comprises a plurality of dielectric layers of alternating relatively low and relatively high refractive index.

35. A device as recited in claim 32, further comprising a planarization layer over the partial reflector layer.

36. A device as recited in claim 32, wherein the substrate has a refractive index in the range from approximately 1.3 – approximately 1.8, the dielectric reflector includes at least one layer having a refractive index in the range from approximately 1.8 – 2.3.

37. A device as recited in claim 36, wherein the surface of the dielectric reflector facing away from the substrate interfaces with a medium having a refractive index in the range from 1 to approximately 1.8.

38. A device as recited in claim 32, wherein the refractive index of the planarization layer is substantially the same as the refractive index of the substrate.

39. A device as recited in claim 1, wherein the structured dielectric reflector includes a plurality of dielectric layers having alternating low and high refractive index.

40. A device as recited in claim 1, wherein the structured dielectric reflector includes a plurality of dielectric layers whose optical thicknesses are not odd integer multiples of one quarter of a selected wavelength.

41. A device as recited in claim 41, wherein the at least one light management film includes a first prismatically ribbed, brightness enhancing film having ribs oriented in a first direction and a second prismatically ribbed, brightness enhancing film having ribs oriented in a second direction perpendicular to the first direction.

42. A device as recited in claim 1, further comprising a control unit coupled to the display unit to control an image displayed on the display unit.

43. A transflective display device, comprising:

a color transmissive display unit having a viewing side and a back side; and

a structured transflector disposed to the backside of the color display unit, the structured transflector comprising a structured substrate having a structured surface and a dielectric partial reflector disposed on the structured surface;

wherein ambient light incident on the display unit produces glare light in a glare direction and the structured transflector reflects image

light over a range of direction substantially surrounding the glare direction.

44. A device as recited in claim 43, wherein the dielectric partial reflector has a transmission in the range of 70% - 90%.

45. A device as recited in claim 43, wherein the transmissive display unit is a liquid crystal display unit.

46. A device as recited in claim 43, further comprising a backlight unit to generate backlight, the structured transflector disposed between the color display unit and the backlight unit, the backlight passing through the structured transflector to the color display unit.

47. A device as recited in claim 46, wherein the backlight unit comprises a light source and at least one light management film disposed between the light source and the structured transflector.

48. A device as recited in claim 47, wherein the at least one light management film includes a first prismatically ribbed, brightness enhancing film having ribs oriented in a first direction and a second prismatically ribbed, brightness enhancing film having ribs oriented in a second direction perpendicular to the first direction.

49. A device as recited in claim 46, wherein light from the backlight passes into the structured transflector in an input direction and passes out of the structured transflector in a direction substantially parallel to the input direction.

50. A device as recited in claim 43, wherein the dielectric partial reflector defines reflecting portions that are perpendicular to a normal to the

display unit and reflecting portions that are not perpendicular to a normal to the display unit.

51. A device as recited in claim 50, wherein the dielectric reflector comprises a reflecting surface having reflecting portions set at a range of angles about a position perpendicular to the normal to the display unit.

52. A device as recited in claim 43, wherein the structured transflector further comprises a planarization layer disposed over the dielectric reflector and facing the transmissive display unit.

53. A device as recited in claim 52, wherein the planarization layer includes diffusing particles.

54. A device as recited in claim 52, wherein the planarization layer is an adhesive layer adhering the structured transflector to the transmissive display unit.

55. A device as recited in claim 1, further comprising a diffuser disposed between the structured transflector and the transmissive display unit.

56. A device as recited in claim 43, wherein the structured reflector comprises a plurality of reflective units, each reflective unit comprising reflective portions set at positive and negative angles relative to an axis through the structured reflector, and the display unit defines picture elements, each picture element of the display unit being disposed over a set of more than one reflective unit.

57. A device as recited in claim 43, wherein the substrate has a relatively low refractive index and the dielectric partial reflector comprises a

single layer of relatively high refractive index material disposed on the structured surface of the substrate.

58. A device as recited in claim 43, wherein the partial reflector layer comprises a plurality of dielectric layers of alternating relatively low and relatively high refractive index.

59. A device as recited in claim 58, wherein the dielectric layers have optical thicknesses that are not odd integer multiples of one quarter of a selected wavelength.

60. A device as recited in claim 43, further comprising a planarization layer over the dielectric partial reflector.

61. A device as recited in claim 60, wherein the refractive index of the planarization layer is substantially the same as the refractive index of the substrate.

62. A device as recited in claim 43, wherein the substrate has a refractive index in the range from approximately 1.3 to approximately 1.8, and the dielectric partial reflector includes at least one layer having a refractive index in the range from approximately 1.8 – 2.3.

63. A device as recited in 62, wherein the surface of the dielectric partial reflector facing away from the structured surface of the substrate interfaces with a medium having a refractive index in the range from 1 to approximately 1.8.

64. A device as recited in claim 43, further comprising a control unit coupled to the display unit to control an image displayed on the display unit.